**Topics 07 – Equilibrium (SL/HL 1)**

**Topic 7: Equilibrium (5 hours)**  
**7.1 Dynamic equilibrium - 1 hour**   
7.1.1 Outline the characteristics of chemical and physical systems in a state of equilibrium. (2)   
**7.2 The position of equilibrium - 4 hours**   
7.2.1 Deduce the equilibrium constant expression (Kc) from the equation for a homogeneous reaction. (3)   
7.2.2 Deduce the extent of a reaction from the magnitude of the equilibrium constant. (3)   
7.2.3 Apply Le Chatelier’s principle to predict the qualitative effects of changes of temperature, pressure   
and concentration on the position of equilibrium and on the value of the equilibrium constant. (2)   
7.2.4 State and explain the effect of a catalyst on an equilibrium reaction. (3)   
7.2.5 Apply the concepts of kinetics and equilibrium to industrial processes. (2)   
  
**Topic 17: Equilibrium (4 hours)**  
**17.1 Liquid–vapor equilibrium - 2 hours**   
17.1.1 Describe the equilibrium established between a liquid and its own vapor and how it is affected by temperature changes. (2)   
17.1.2 Sketch graphs showing the relationship between vapor pressure and temperature and explain them in terms of the kinetic theory. (3)   
17.1.3 State and explain the relationship between enthalpy of vaporization, boiling point and intermolecular forces. (3)   
**17.2 The equilibrium law - 2 hours**   
17.2.1 Solve homogeneous equilibrium problems using the expression for Kc. (3)